



# System-of-Care Evaluation Brief

## Differences in System-of-Care Experience in CMHS-funded and Non-funded Communities

Previous evaluations of the impact that the system-of-care approach has on mental health service delivery for children with serious emotional disturbance have focused primarily on evaluating symptom and impairment outcomes for children and families and the services and costs associated with obtaining these outcomes (Bickman et al., 1995; Bickman, Summerfelt, & Noser, 1997; Lambert, Brannan, Breda, Heflinger, & Bickman, 1998). Little attention has been given to practice-level factors that may influence the impact that systems of care have on children and families. The longitudinal comparison study of the national evaluation of the Comprehensive Community Mental Health Services for Children and Their Families Program was designed to assess factors in service delivery systems and communities that may shape the overall impact of systems of care.

One way to understand the relationship between changes at the level of the service delivery system and individual outcomes is to examine the direct service experience of children and families. The System-of-Care Practice Review (SOCPR; Hernandez, Gomez, Lipien, Greenbaum, Armstrong, & Gonzalez, 2001) was included as part of the comparison study to assess the service experiences of children and families during the provision of care in system-of-care and matched communities. Hernandez et al. (2001) provided a description of the construction and administration of the SOCPR within the longitudinal comparison study, as well as results of a comparison between the different service delivery systems in the study. The results of these initial analyses indicated that the service experiences of families were more consistent with system-of-care principles in the CMHS-funded systems than in the matched communities. A subsequent set of analyses was conducted in an effort to assess the extent to which care that embodies the principles of a system of care affects clinical outcomes for children being served in CMHS-funded system-of-care and their matched non-system-of-care communities.

The sample for the analysis was the group of children and families who were selected for participation in the SOCPR in the longitudinal comparison study and who had complete data for both CBCL Total Problems and SOCPR Total scores ( $N = 75$ ). Children and their families were eligible to participate in the SOCPR if they were enrolled in the longitudinal comparison study and had been receiving mental health services for a minimum of 2 months and a maximum of 12 months. The number of children in the CMHS-funded systems of care and in the non-funded service delivery groups, with their associated demographic characteristics, are presented in Table 1.

The SOCPR protocol for each family consisted of multiple data collection techniques, including document review, primary caregiver interview, child interview, formal provider interviews, and informal helper interviews. Summary scores (1 = Strongly disagree to 7 = Strongly agree) were generated for the following four domains and their underlying subdomains:

*System-of-Care Evaluation Briefs* report findings from the National Evaluation of the Comprehensive Community Mental Health Services for Children and Their Families Program funded by the Center for Mental Health Services (CMHS) of the Substance Abuse and Mental Health Services Administration. The Program provides six-year grants to states, political subdivisions of states, American Indian Tribes, tribal organizations, and territories to support the development of community-based systems of care for children with serious emotional disturbance and their families. Systems of care are developed using an approach that emphasizes integration of services through collaborative arrangements between child-serving sectors such as education, child welfare, juvenile justice, and mental health; youth and family caregiver participation; and cultural and linguistic competence of services. The Briefs are published monthly and are sponsored by the Child, Adolescent and Family Branch of the federal Center for Mental Health Services.



**National Evaluation  
Comprehensive Community Mental Health  
Services for Children and Their Families Program**

**Wayne Holden and Rolando Santiago, Editors**

Volume 2, Issue 11  
August 2001

(1) *Child centered and family focused* – Individualized, Full Participation, Case Management; (2) *Community based* – Early Intervention, Access to Services, Level of Restrictiveness, Integration and Coordination; (3) *Cultural Competence* – Sensitivity and Responsiveness, Awareness, Agency Culture, Informal Supports; and (4) *Impact* – Individual Functional Improvement, Appropriateness of Services. Finally, a *Total* score was also calculated across the four domains.

To explore the nature of the relationship between SOCPR scores and clinical outcomes, the CBCL Total Problems score was selected for the current analysis. Table 2 contains descriptive statistics for the SOCPR Total scores and the CBCL Total Problems raw scores and T-scores for the two types of service delivery systems. The mean SOCPR Total score was higher for the system-of-care children than for the children in the traditional service delivery systems. Children in both systems had mean CBCL Total Problems T-scores within the clinical range at baseline. The mean for children in the traditional service delivery systems at the 12-month follow-up was still within the clinical range, while the mean for children in systems of care dropped below the clinical cutoff.

In order to understand the influences of child characteristics, service experiences, and service delivery approaches on CBCL Total Problems raw score at 12 months, we examined the following variables: (a) the baseline CBCL Total Problems score, (b) race (White, non-White), (c) service delivery approach (system of care, non-system of care), (d) SOCPR Total score, and (e) the interaction between service delivery approach and the SOCPR Total score. These variables were entered into one multiple regression analysis that included all children's scores. As expected, baseline clinical symptom (CBCL) scores were related to symptom (CBCL) scores at 12 months.

More important were the other significant influences on CBCL Total Problems at 12 months: the SOCPR Total score and the interaction between service delivery approach and the SOCPR Total score. To depict most clearly the complex relationship between child outcomes as represented by CBCL Total Problem scores, service delivery approach, and service experience, the relationship, the relationship between SOCPR Total scores and CBCL Total Problems at baseline and 12 months can be plotted

**Table 1**  
**Demographics of Children, SOCPR Total Scores, and CBCL Total Problems Scores**

	SOC ( <i>N</i> = 36)	Non-SOC ( <i>N</i> = 39)	Significance
<b>Gender</b>			
Male	55.6%	62.9%	n.s.
Female	44.4%	30.8%	
<b>Age</b>			
6—8 years old	39.1%	28.0%	n.s.
9—11 years old	23.9%	16.0%	
12—14 years old	32.6%	32.0%	
15—17 years old	10.8%	24.0%	
<b>Race/Ethnicity</b>			
African-American	26.1%	50.0%	<i>p</i> < .001
White	67.4%	30.0%	
Hispanic/Latino	0.0%	0.0%	
Mixed Race	0.0%	14.0%	
Other	6.5%	6.0%	
<b>Family Income</b>			
Less than \$15,000/year	46.7%	75.0%	<i>p</i> < .05
\$15,000/year or more	53.3%	25.0%	

**Table 2**  
**Mean SOCPR Total Scores and CBCL Total Problems Raw Scores**

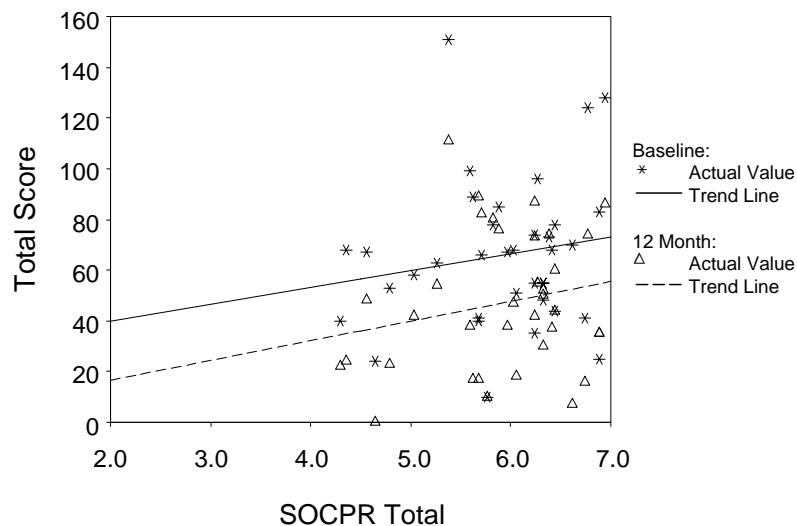
	SOC ( <i>N</i> = 36)	Non-SOC ( <i>N</i> = 39)
<b>SOCPR</b>		
Total Score	5.90	4.52
<b>Baseline CBCL</b>		
Total Problems Raw Score	65.83	75.97
Total Problems T-score	68.69	71.59
<b>12-Month CBCL</b>		
Total Problems Raw Score	47.03	60.38
Total Problems T-score	61.14	64.97

on separate graphs for each type of service delivery approach. Figures 1 and 2 show individual scores for CBCL Total Problems scores at baseline and 12 months as a function of SOCPR Total scores. In addition, the figures include trend lines that represent the nature of the relationship between the two measures at baseline and 12 months for the group as a whole.

As seen in Figure 1, the entire sample of children from the system-of-care communities had SOCPR Total scores greater than or equal to 4, which indicates that all children and families in the system-of-care communities experienced services that embodied the system-of-care principles at a consistently high level.

In contrast, Figure 2 shows more variability in SOCPR Total scores for the sample of children and families in the matched communities. Further, there was a tendency for the children and

### CBCL Total Problems Raw Scores as a Function of SOCPR Total Scores and Wave for System-of-Care Communities<sup>a</sup>



<sup>a</sup>Number of Children = 36.

Figure 1

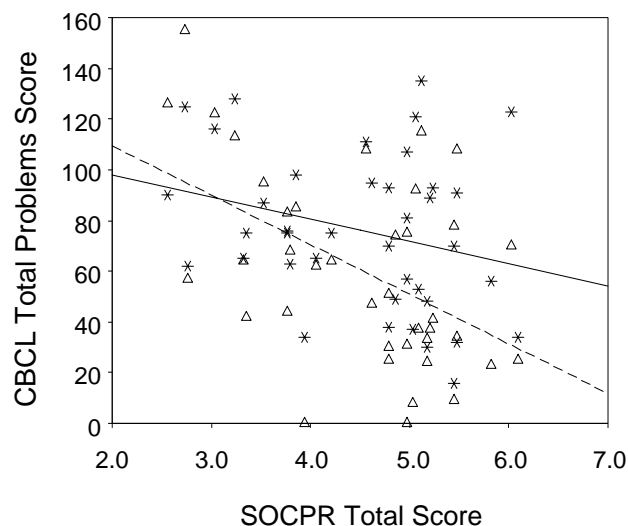
families in the matched comparison communities who had more intense experiences of the system-of-care principles to have fewer behavioral and emotional symptoms at intake. This relationship between experience of the principles and clinical symptoms is even stronger at 12 months after intake into services.

In summary, children and families in systems of care reported experiencing services that embodied system-of-care principles at high levels. Their system-of-care service experiences were more consistent, and their symptom severity did not vary as a function of intensity of their experiences. In contrast, children and families in matched non-system-of-care communities reported more variability in their experiences of services that embodied system-of-care principles, and their symptom severity varied as a function of their experiences. Variability in system-of-care experience in the matched communities likely means that the service systems in these communities are inadequate for providing a consistent system-of-care experience for all children and families. It is also likely that the few children and families in the matched communities who appear to have an experience similar to a system-of-care experience are indeed a sign that the matched community is at the beginning stages of system-of-care reform. On the other side, the findings of this study appear to suggest that most children and families in the CMHS-funded communities have a consistent and fair system of care service experience. A previous report of the system-of-care assessment in the longitudinal comparison study (Brannan, Baughman, Reed, & Katz-Leavy, in press) found similar results regarding the operationalization of the system-of-care principles. System scores across the systems of care were less variable than those across the traditional service delivery systems, and there was some movement toward the system-of-care approach in the traditional service delivery systems. The current results underscore the importance of measuring service experiences at the practice level. There is a need to replicate these findings with a larger sample size to allow for analysis of individual variation in change over time using more sophisticated analysis strategies to predict rates of change over time.

#### References:

- Bickman, L., Guthrie, P. R., Foster, E. M., Lambert, W., Summerfelt, W. T., Breda, C. S., & Heflinger, C. A. (1995). *Evaluating managed mental health services: The Fort Bragg experiment*. New York, NY: Plenum Press.
- Bickman, L., Summerfelt, W., & Noser, K. (1997). Comparative outcomes of emotionally disturbed children and adolescents in a system of services and usual care. *Psychiatric Services*, 48, 1543-1548.
- Brannan, A. M., Baughman, L. N., Reed, E. D., & Katz-Leavy, J. (in press). System-of-care assessment: Cross-site comparison of findings. *Children's Services: Social Policy, Research and Practice*.
- Hernandez, M., Gomez, A., Lipien, L., Greenbaum, P. E., Armstrong, K., & Gonzalez, P. (2001). Use of the system-of-care practice review in the national evaluation: Evaluating the fidelity of practice to system-of-care principles. *Journal of Emotional and Behavioral Disorders*, 9, 43-52.
- Lambert, E. W., Brannan, A. M., Heflinger, C. A., Breda, C., & Bickman, L. (1998). Common patterns of service use in children's mental health. *Evaluation and Program Planning*, 2, 47-57.

### CBCL Total Problems Raw Scores as a Function of SOCPR Total Scores and Wave for Comparison Communities<sup>a</sup>



<sup>a</sup>Number of children = 39.

Figure 2



#### Children and families in systems of care

- experienced high levels of system-of-care principles in their services,
- their service experiences were more consistent, and
- their symptom severity did not vary as a function of their experiences.

#### Children and families in matched comparison communities

- had more variable experiences of system-of-care principles in their services, and
- their symptom severity varied as a function of their experiences.

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